REMARKS

Claims 8-18 are pending in this application, of which claims 8 and 14 are in independent form. Claims 8 and 14 have been amended, and claims 19-23 have been added, of which claim 19 is in independent form, to further set forth the present invention. No new matter has been added. Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 8, 14 and 19 now refer to a cavity which is defined by first cooling fins and second cooling fins.

More specifically, in the present invention, since the first cooling fins and the second cooling fins are distributed under the central region of the centrifugal fan, the heat, mainly concentrated in the central region of the heat-generating device, is dissipated effectively. In addition, the coolant air generated by the centrifugal fan can blow substantially the total length of the first cooling fins and the second cooling fins and then exhaust in the outer periphery of the first cooling fins and the second cooling fins. Furthermore, since the cover includes the inlets, the coolant air from ambient can be flowed in an axial direction of the centrifugal fan into the heat sink.

Furthermore, in claim 19, it is noted that air from ambient is flowed in the axial direction of the centrifugal fan into the heat sink from the inlets of the cover, and is flowed in the radial directions of the centrifugal fan out of the heat sink.

In contrast, *Miyahara et al.*, US Patent No. 5,940,268 (hereinafter *"Miyahara"*) teaches a heat sink 82 with radiator fins 83. An axial fan 85 is disposed in a round cavity of the heat sink 82. A casing 86 defines a space above the heat sink 82. Applicants note that the cavity in the heat sink 82 is round; therefore, *Miyahara* does not disclose the annular cavity defined by the first cooling fins and the second cooling fins, as disclosed in the present invention.

In addition, since the casing is not provided with openings as shown in Fig. 9 of *Miyahara*, the coolant air is flowed into heat sink 82 from the space between the casing 86 and the heat sink 82. That is, the coolant air is flowed in a radial direction of the axial fan 85 into the heat sink 82, and is not flowed in an axial direction of the centrifugal fan, as disclosed in the present invention.

The previously cited references of *Miyahara*, *Liang et al.*, (Patent Publication No. US 2002/0018336) and *Heitzig* (U.S. Patent No. 4,612,979) do not teach or suggest the characteristics of the embedded centrifugal cooling device, as disclosed in the present invention. For at least these reasons, Applicants respectfully submit that claims 8, 14 and 19 are patentable over the above-cited references. Insofar as claims 9-13 depend from claim 8, claims 15-18 depend from claim 14, and claims 20-23 depend from claim 19, Applicants also submit that claims 9-13, 15-18, 20-23 are also allowable for at least the reasons stated above.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone

number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees which may be due with respect to this paper, may be charged to Deposit Account No. 50-2394.

Respectfully submitted,

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MARKED-UP VERSION OF AMENDED SPECIFICATION

Please replace the paragraph beginning on page 6, line 20 with the following:

As shown in Fig.2(a), the present embedded centrifugal cooling device includes a heat sink 100, a blower or a centrifugal fan 200 and a cover 300. Among these, the heat sink 100 includes a plurality of first cooling fins 110, a plurality of second cooling fins 130, and [a] an annular cavity 120 defined by the first cooling fins 110 and the second cooling fins 130, as shown in Fig.2(b). The centrifugal fan 200 is formed in the cavity 120 such that the centrifugal fan 200 is embedded into the heat sink 100. It is noted that the shape of the cavity 120 matches that of the centrifugal fan 200. In this manner, the cooling fins 110,130 are distributed under and around the region extending [form] from the central region to the peripheral region of the centrifugal fan 200. The heat sink 100 is made of material chosen from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof.

Please replace the paragraph beginning on page 7, line 6 with the following:

The cover 300 is formed with a plurality of inlets 310 as shown in Fig. 2(a). Thus, since the cover 300 includes the inlets 310, the coolant air from ambiance can be flowed in an axial direction of the centrifugal fan 200 into the heat sink 100. Still referring to Fig.2(a), the heat sink 100 is used to previously direct the heat concentrated in the central region of the heat-generating device to a larger heat dissipating surface (e.g. cooling fins). Then, using the centrifugal fan 200 to blow

the heat sink 100 so as to direct the heat to ambiance. That is, the coolant air is flowed in a radial direction of the centrifugal fan 200 out of the heat sink 100. It is noted that since the cooling fins 110,130 are also distributed under the central region of the centrifugal fan 200, the heat mainly concentrated in the central region of the heat-generating device is dissipated effectively.

Please replace the paragraph beginning on page 7, line 16 with the following:

Further, the present embedded centrifugal cooling device includes a cover 300 formed over the heat sink 100 and the centrifugal fan 200. The cover 300 serves as an air seal to keep the present embedded centrifugal cooling device airtight substantially. In this manner, the coolant air generated by the centrifugal fan 200 can blow substantially the total length of the cooling fins 110,130 and then exhaust in the outer periphery of the cooling fins 110,130.

MARKED-UP VERSION OF AMENDED CLAIMS

8. (Twice amended) An embedded centrifugal cooling device, comprising:

a heat sink, including a plurality of first cooling fins and a plurality of second cooling fins, [said cooling fins defining] wherein an annular cavity is defined between the first cooling fins and the second cooling fins; and

a centrifugal fan, formed in said annular cavity so as to be embedded into said heat sink.

14. (Once amended) An embedded centrifugal cooling device, comprising:

a heat sink, including a plurality of first cooling fins and a plurality of second cooling fins, [said cooling fins defining] wherein a cavity is defined between the first cooling fins and the second cooling fins;

a centrifugal fan, formed in said cavity so as to be embedded into said heat sink; and

a cover formed on said heat sink and said centrifugal fan.